Iowa Department of Natural Resources
Natural Resource Commission

ITEM **23** **INFORMATION**

TOPIC **Immunocontraceptives**

Information will be provided on immunocontraceptives, national activities and pending legislation.

Ken Herring, Administrator
Conservation and Recreation Division

Attachment

March 8, 2007

"USE OF DRUGS ON NONCAPTIVE VERTABRATE WILDLIFE"

Traditional methods for reducing overabundant wildlife, such as hunting and trapping, are often restricted or infeasible in urban and suburban areas. For the past 11 years, scientists with the U.S. Department of Agriculture's (USDA) National Wildlife Research Center (NWRC) have been working to develop a single-shot, multiyear contraceptive for white-tailed deer. This research has resulted in the development of GonaCon™, a new gonadotropin-releasing hormone (GnRH) immunocontraceptive vaccine.

Because of the licensing requirements for this drug and others, State Wildlife Agencies were tasked by the Association of Fish and Wildlife Agencies, under advisement of the Association's Legal Staff, to look at their respective State Codes and determine whether or not the State Wildlife Agency had regulatory authority to control the use of these chemicals on free ranging wildlife. While the Code of Iowa gives authority to the Department of Natural Resources for maintaining biological balance which includes setting seasons, method of take… it does not specifically mention the use of chemicals for fertility control, disease prevention or treatment, immobilization or growth stimulation.

GonaCon™—Birth Control for Deer: Questions and Answers

Q. What is GonaCon™?
A. GonaCon™ is a new gonadotropin-releasing hormone (GnRH) immunocontraceptive vaccine developed by scientists at the USDA Wildlife Services' NWRC.

Q. How does GonaCon work?
A. The single-shot, multiyear vaccine stimulates the production of antibodies that bind to GnRH. GnRH is a hormone in an animal's body that signals the production of sex hormones (e.g., estrogen, progesterone, and testosterone). By binding to GnRH, the antibodies reduce GnRH's ability to stimulate the release of these sex hormones. All sexual activity is decreased, and animals remain in a nonreproductive state as long as a sufficient level of antibody activity is present.

Q. How does GonaCon stimulate the production of antibodies?
A. GonaCon causes an animal's body to make antibodies against its own GnRH. To do this, GnRH is synthesized and hooked to a foreign protein. This material looks like a giant, new molecule that the animal's immune system has never encountered. As a result, when it is injected into the animal's body, the body's immune response neutralizes the hormone's function, resulting in infertility.

Q. What are the health effects associated with GonaCon?
A. The health effects associated with GonaCon are minimal. In field and pen studies, animals showed no evidence of inflammation at injection sites, and blood chemistry was similar among treatment and control groups. Vaccinated animals showed a decrease in sexual activity and breeding behavior.

Q. Are there any dangers or secondary hazards to humans or other animals that eat meat from vaccinated deer?
A. There is no danger associated with humans or wildlife eating deer that have been vaccinated with GonaCon. As with other vaccines, such as those used with livestock, both the vaccine and the antibodies produced are proteins. Once ingested, they are broken down by stomach acids and enzymes. After evaluating GonaCon, the Food and Drug Administration (FDA) determined there would be little risk to humans if meat from vaccinated deer was consumed. In fact, the FDA approved the slaughter of pigs vaccinated with GonaCon. Similar injectable hormone altering products are used routinely in livestock applications.

Q. How long does GonaCon last?
A. It depends upon the individual animal and its response to the vaccine. A single-shot of GonaCon has successfully kept female deer infertile for 2 to 4 years in pen studies. A second shot given the same year or in subsequent years can significantly increase effectiveness, potentially rendering deer infertile for life.

Q. What are the benefits of GonaCon?
A. Because it is a single-shot, multiyear vaccine, GonaCon may be a practical management tool. Deer need to be injected only once to become infertile for up to 4 years. A boost injection could increase effectiveness to almost 100% and increase longevity of the contraceptive effect. The vaccine can be used in urban and residential areas, where other management methods, such as hunting, are not an option.

Q. What are the limitations of GonaCon?
A. GonaCon must be injected into the muscle or tissue of each animal.

Q. How much does GonaCon cost?
A. The vaccine itself only costs $2–$10 per dose. The main cost of using GonaCon is associated with the time and money required to capture and vaccinate the deer. The estimated cost of vaccinating a deer ranges from $500 to $1,000 if capture and marking are required. If marking individual deer is not required and groups of animals can be vaccinated by remote injection, costs would be much lower.

Q. Is GonaCon currently available to Federal, State, and local wildlife management agencies?
A. No. Once registered, GonaCon will be under the authority of the Environmental Protection Agency (EPA). NWRC hopes to submit a registration application to EPA in early 2007 and anticipates a product registration in early 2008.

Q. Who will be allowed to use GonaCon?
A. GonaCon will be registered as a "Restricted Use" product. Although final label language has not been negotiated with EPA, the product will be labeled for use by state or federal wildlife or natural resource management personnel or persons working under their authority. GonaCon users will need to follow state authorization processes.

Q. Will GonaCon eliminate the need for hunting to control deer overpopulation?
A. No. Contraception alone cannot reduce overabundant deer populations to healthy levels. GonaCon is a tool to be used in conjunction with other wildlife management methods.

Senate Study Bill 1112; HOUSE STUDY BILL 37

SENATE/HOUSE FILE
BY (PROPOSED DEPARTMENT OF NATURAL RESOURCES BILL)

Passed Senate, Date _____ Passed House, Date
Vote: Ayes _____ Nays _____ Vote: Ayes _____ Nays
Approved

A BILL FOR

An Act regulating the administration of drugs to certain noncaptive vertebrate wildlife and providing a penalty.
BE IT ENACTED BY THE GENERAL ASSEMBLY OF THE STATE OF IOWA:
TLSB 1408DP 82
av/je/5

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Section 1. NEW SECTION. 481A.40 USE OF DRUGS ON NONCAPTIVE VERTEBRATE WILDLIFE == PENALTY.

1. For the purposes of this section, "drug" means any chemical substance, other than food, that affects the structure or biological function of any noncaptive vertebrate wildlife species.

2. Except with written authorization from the director or the director's designee or as otherwise provided by law, a person shall not administer any drug to any noncaptive vertebrate wildlife, including but not limited to drugs used for fertility control, disease prevention or treatment, immobilization, or growth stimulation.

3. This section does not prohibit the treatment of sick or injured wildlife by a licensed veterinarian or holder of a wildlife rehabilitation permit.

4. This section shall not be construed to limit employees of agencies of the state, the United States, or local animal control officers in the performance of their official duties related to public health, wildlife management, or wildlife removal. However, a drug shall not be administered by any person for fertility control or growth stimulation except as provided in subsection 2.

5. An officer of the department may take possession of or dispose of any noncaptive vertebrate wildlife that the officer reasonably believes has been administered drugs in violation of this section.

6. A person who violates this section is guilty of a serious misdemeanor.

EXPLANATION

This bill relates to the administration of drugs to certain noncaptive vertebrate wildlife. For the purposes of the bill, "drug" means any chemical substance, other than food, that affects the structure or biological function of any noncaptive vertebrate wildlife species.

The bill prohibits the administration of drugs to any noncaptive vertebrate wildlife for any purpose, including but not limited to fertility control, disease prevention or treatment, immobilization, or growth stimulation, except with written authorization from the department of natural resources or as otherwise provided by law.

The bill does not prohibit a licensed veterinarian or holder of a wildlife rehabilitation permit from treating sick or injured wildlife. The bill also does not prohibit government employees from carrying out their official duties related to public health, wildlife management, or wildlife removal.

The bill authorizes an officer of the department to take possession of and dispose of any noncaptive vertebrate wildlife that the officer reasonably believes has been administered drugs in violation of the bill.

A person who violates the provisions of the bill is guilty of a serious misdemeanor. A serious misdemeanor is punishable by confinement for no more than one year and a fine of at least $315 but not more than $1,875.

LSB 1408DP 82
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USE OF DRUGS ON NON-CAPTIVE VERTEBRATE WILDLIFE

This bill relates to the administration of drugs to certain non-captive vertebrate wildlife. For the purposes of the bill, "drug" means any chemical substance, other than food, that affects the structure or biological function of any non-captive vertebrate wildlife species.

The main intent of this bill is to regulate the use of fertility control drugs on free-roaming or non-captive wildlife. The use of contraceptive chemicals on wildlife populations, without appropriate oversight, could have unintended consequences on the populations. It could also cause threats to human health and safety because humans (and all mammals) could by affected by direct contact with the fertility control drugs. The methods of delivering the drugs are usually by remote injection, and the delivery darts could be found with drugs intact and create a human health hazard. (Please note that ingesting meat from animals treated with the drug will not adversely affect humans.)

The bill does not prohibit a licensed veterinarian or holder of a wildlife rehabilitation permit from treating sick or injured wildlife. The bill also does not prohibit government employees, animal rescue league pounds, or other qualified officials from carrying out their duties related to public health, wildlife management, or wildlife removal.

Traditional methods for reducing overabundant wildlife, such as hunting and trapping, are often restricted or infeasible in urban and suburban areas. For the past 11 years, scientists have been working to develop a single-shot, multiyear contraceptive for white-tailed deer, and the first version will soon be available. State wildlife agencies across the nation were tasked by the Association of Fish and Wildlife Agencies to look at their respective state codes. While the Code of Iowa gives authority to the Department of Natural Resources for maintaining biological balance for non-captive wildlife, which includes setting seasons and method of take, the code does not specifically mention the use of chemicals for fertility control, disease prevention, treatment immobilization, or growth stimulation. The proposed legislation will allow the department to regulate and control the use of these drugs for safety purposes and for the protection of the wildlife resources from unintended consequences.